

REMARKS

Claims 1-17 and 19-23 are pending. Claims 6 and 7 have been allowed, claims 1, 8, and 13-17 have been amended, and claim 18 has been canceled. In addition, claims 20-23 have been added to provide an additional measure of protection for the invention.

Reconsideration of the application is respectfully requested for the following reasons.

In the Office Action, claims 1, 5, 13, 14, 16, 17, and 19 were rejected under 35 §102(b) for being anticipated by the Sprague patent (U.S. Patent No. 5,699,458). This rejection is traversed for the following reasons.

Claim 1 recites broadly one or more embodiments in the invention disclosed in the specification. In particular, claim 1 recites a "first core part that encodes a moving picture at a first quantizing value corresponding to a first display resolution and encodes a frame unit still picture with a corresponding second high resolution." Claim 1, therefore, has been amended to require the first core part to encode both a moving picture and a still picture. This information has been selectively output through the output unit, for example, for transmission to an intended destination.

The Sprague patent discloses a system for encoding images which may be transmitted over a communication channel. As shown in Figure 3, the Sprague system is similar to the related-art system shown in Figure 2 of Applicants' drawings. More specifically, the related-art Figure 2 system and the Sprague system include an encoder for encoding an input video image

signal, a channel buffer for storing the encoded signal, and a rate controller which changes a quantizing rate in the encoder based on transmission rate information provided by the buffer.

The Sprague patent further discloses that the input image signal may be a still image or one of a plurality of pictures that constitute motion video. (See column 5, lines 44-47.) The Sprague patent, however, does not disclose encoding a moving picture at a first display resolution and a still picture with a corresponding second higher resolution as recited in claim 1.

On the contrary, the Sprague patent expressly discloses that the sub-sampled image data output from capture processor 104 (Figure 1) is encoded with a same resolution (e.g., 8 x 8 pixels) and this is true regardless of whether motion video or a still picture is being encoded. (See column 5, lines 50-52, and column 6, lines 1-21 which provides a more in-depth description of how the sub-sampled data is quantized.)

Incidentally, at column 6, the Sprague patent discloses that the quantization level, and thus the encoding resolution, may be changed. However, that quantization level/resolution is not changed based on whether the input image data is a still picture or moving picture, but rather based on the transmission rate information output from channel buffer 305, which is exactly the same way quantization is changed in the related-art system shown in Figure 2 of Applicants' drawings.

Because the Sprague patent does not disclose all the features recited in claim 1, it is respectfully submitted that the Sprague patent cannot anticipate this claim. Applicants further

submit that these differences are sufficient to render claim 1 and its dependent claims non-obvious and thus patentable over the Sprague patent.

Regarding claim 1, Applicants note that the Kleihorst (U.S. Patent No. 6,349,154) patent was cited for disclosing generating a higher resolution still image from a sequence of encoded pictures, e.g., input MPEG encoded data period. More specifically, Kleihorst discloses a digital camera which captures MPEG video and then generates a higher-resolution still picture from that video. The Kleihorst patent, however, does not disclose an output unit that “selectively outputs an encoded bit stream of output data” from a variable-length coder, as further recited in claim 1. Moreover, the Kleihorst disclosure is restricted to processing images in a digital camera. Absent a teaching or suggestion of these features, it is respectfully submitted that the Kleihorst patent can not make up for the deficiencies of the Sprague patent with regard to claim 1. Accordingly, it is submitted that claim 1 and its dependent claims are patentably distinguishable from any combination that can be formed between the Sprague and Kleihorst patents.

Claim 13 recites receiving and storing a still picture at a first resolution, encoding the stored still picture at a second resolution, and transmitting the still picture encoded at the second resolution. Claim 13 further recites determining a difference between the stored still frame encoded at the first resolution and the transmitted still frame encoded at the second resolution, encoding the difference, and transmitting the encoded difference, i.e., the Sprague system discloses changing the quantizing rate for different still images. However, Sprague does not disclose determining a difference between a same still image encoded at different resolutions,

encoding that difference, and then transmitting the encoded difference. (See, for example, pages 16 and 17 of Applicants' specification.)

Because the Sprague patent does not disclose all the features of claim 13, it is respectfully submitted that the Sprague patent can not anticipate this claim. Moreover, it is submitted that these differences are sufficient to render claim 13 and its dependent claims non-obvious and thus patentable over Sprague. And, while the Kleihorst patent discloses deriving a still image of higher resolution from an input sequence of images, Kleihorst does not teach or suggest the features of claim 13 as presently amended.

Claim 17 has been amended to recite the subject matter of claim 18, which has been indicated to be allowable by the Examiner. Accordingly, it is submitted that claims 17 and 19 are in condition for allowance.

Claims 8-12 were rejected under 35 USC §103(a) based on the combination of the Sprague and Kleihorst patents. This rejection is traversed for the following reasons.

Claim 8 recites broadly one or more embodiments of the invention described in the specification. In particular, claim 8 recites "selectively transmitting one of the encoded still picture and the encoded moving picture" and that the encoded still picture has a higher resolution than the encoded moving picture. In the Office Action, the Examiner acknowledged that the Sprague patent does not transmit an encoded still picture at a higher resolution than an encoded moving picture. To make up for these deficiencies, the Kleihorst patent was cited.

The Kleihorst patent discloses generating a higher-resolution still image from a sequence of encoded pictures derived, for example, from an MPEG encoder. The Kleihorst patent, however, does not teach or suggest selectively transmitting one of an encoded still picture and an encoded moving picture. Rather, the Kleihorst patent is limited to processing operations performed in a digital camera and does not involve selective transmission of the type recited in claim 8.

Applicants further submit that modifying the Sprague patent to include the image processing technique disclosed in Kleihorst would not form the claimed invention. As noted at columns 5 and 6, the Sprague system receives either a still image or motion video. This input signal is then encoded and transmitted; however, at no time does the Sprague system select between an encoded still image and encoded motion video for transmission as recited in claim 1. Nor does the Kleihorst patent teach or suggest that an image transmission system such as Sprague can be modified to perform such a function.

Absent a teaching or suggestion of these features, is respectfully submitted that claim 8 and its dependent claims are non-obvious and thus patentable over a Sprague-Kleihorst combination.

Claim 20 has been added to recite that the selective transmission step of claim 8 is performed in response to a user selection signal. See, for example Figures 4 and 5 for support. These features are not taught or suggested by the cited references, whether taken alone or in combination.

Claims 21-23 been added to further define the method of claim 13.

Claim 21 recites that the stored still picture is encoded at the second resolution "based on a quantizing value determined by a state of a channel buffer." These features are not taught or suggested by the cited references, whether taken alone in combination.

Claim 22 recites that the second resolution is higher than the first resolution. These features are not taught or suggested by the cited references, whether taken alone or in combination.

Claim 23 recites the further step of the "decoding the transmitted still frame based on the encoded difference, to thereby reproduce a still image having a resolution greater than the first resolution. These features are not taught or suggested by the cited references, whether taken alone or in combination.

Reconsideration and withdrawal of all the rejections of record is respectfully requested.

CONCLUSION

In view of the foregoing amendments and remarks, it is respectfully submitted that the application is in condition for allowance. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney, Samuel W. Ntiros, at the telephone number listed below. Favorable consideration and prompt allowance are earnestly solicited.

Serial No. 09/619,615

Docket No. K-0190

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
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